



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,634	03/19/2004	Mark Gurvich	94/2	3618

25235 7590 08/19/2005
HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEENTH ST
DENVER, CO 80202

EXAMINER

GLENN, KIMBERLY E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/805,634	Applicant(s) GURVICH ET AL.	
	Examiner Kimberly E. Glenn	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 and 20-24 is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/19/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

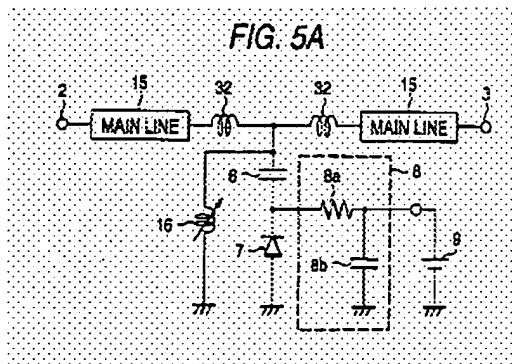
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

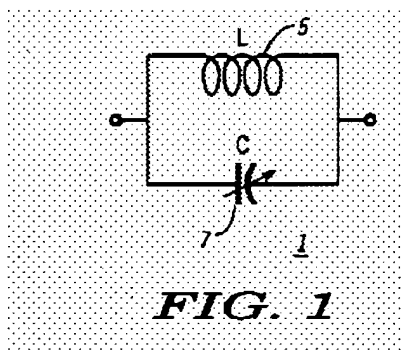
Claims 13-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seino US Patent 6,400,237 (AAPR) in view of Stengel et al US Patent 6,356,149.

Seino disclose in figure 5a, a circuit comprising of an variable capacity element 7, a direct current power supply is coupled to the variable capacity element to control the capacitance, a variable inductor is coupled in parallel with the variable capacity element. The variable inductor and variable capacity elements are components in a phase compensation circuit connected to a transmission line. The phase compensation circuit compensates for phase relative to the temperature. Therefore, the adjusting of the capacitance and inductance will result in a phase compensation, which will inherently shift (delay) the signal that is applied to the input of the transmission line. The variable capacity element has one end connected to the variable inductor and the other end connected to ground. The method steps to the above disclosed apparatus are inherent.



Thus, Seino is shown to teach all the limitation of the claims with exception of the variable inductor being electronically variable virtual inductor.

Stengel et al discloses in figure 1, a tunable inductor circuit 1 comprising of an inductor 5 and a variable capacitor 7. A control voltage signal is applied to the variable capacitor, which controls the inductance of tunable inductor circuit 1.



One of ordinary skill in the art would have found to obvious to replace the variable inductor of Seino with tunable inductor circuit as taught by Stengel et al. The motivation for this modification would have been to provide a tunable inductor circuit capable of dynamic phase control and better performance.

Allowable Subject Matter

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-12 and 20-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: With regards to claims 1-3, the prior art does not disclose or fairly teach adjusting the first variable capacitance by applying the capacitive control signal to the first variable capacitance such that the capacitance of the group delay adjusting circuit adjusted; applying an inductive control signal second variable capacitance; and adjusting the second variable capacitance by applying the inductive control signal to the second variable capacitance of a virtual inductor such that the inductance of the group delay adjusting circuit adjusted. With regards to claims 4-6, the prior art does not disclose or fairly teach adjusting the first variable capacitance by applying conjunctional positive capacitive control signal to the first variable capacitance; applying an inductive control signal to a second variable capacitance; and adjusting the second variable capacitance by applying a conjunctional positive inductive control signal to the second variable capacitance. With regards to claims 7-12, the prior art does not disclose or fairly teach a group delay of a signal envelope coupled to the input of the transmission line is adjusted at the output of the transmission line, by coupling a first variable voltage to the first delay adjust signal input, coupling a second variable voltage to the second delay adjust signal input, and coupling a DC bias voltage to the DC bias input. With

Art Unit: 2817

regards to claim 20, the prior art does not disclose or fairly teach adjusting a second variable shunt capacitance; and electrically rotating the second variable shunt capacitance to a variable inductance by coupling the variable shunt capacitance to a first terminal of a series transmission line having an electrical length of a quarter wavelength at a frequency of operation, in which a second terminal of the series transmission line is coupled to the first terminal of the first parallel variable shunt capacitance such that the second terminal of the series transmission line provides a variable inductance. With regards to claims 21-24, the prior art does not disclose or fairly teach setting a first control voltage to a first value; adjusting a second control voltage to produce a predetermined insertion loss flatness; measure a phase at a low frequency; measure the phase at a high frequency; calculate the group delay; and record the first control voltage, the second control voltage values and group delay.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E. Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn
Examiner
Art Unit 2817

keg



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800